Solid State Recorder Operation

- SSR functionally replaces OPS Recorders on the Shuttle, with minimal impact to ground networks
  - Uses existing Orbiter FM and Ku Channel 2 interfaces
  - 2048K dump rate highly desirable (Ku tested okay)
  - All SSR dumps forward direction only
  - SSME dump at 960K, no gap between E1, E2, and E3 data
  - OARE data dump at 960K, 1024K, or 2048K (640K not available), no gap between sample periods
  - 32K, 64K, 128K, and 192K dump rates are available for troubleshooting

SSR Operational Improvements

- No Ku I/Q reversals (verified at ESTL)
- No requirement for 640K or 1536K dumps, due to auto input rate sensing on SSR
- No dump time lost to rewinding or track selection (dump queues)
- 2048K available for quicker clean-up of recorders
- More reliable hardware, less on-orbit troubleshooting required
- Better utilization of available memory due to write protection and no “track management” concerns (track changes, overwriting next track, running out of tape)
- Single operation SSME dumps (SSR keeps track of ME data)
- Crystal controlled (frequency/jitter) accuracy on dump rates